DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-017699
Date Inspected: 28-Oct-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 630
OSM Departure Time: 1500
Location: Job Site

CWI Name: See Below

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girders

Summary of Items Observed:

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the following work performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below:

A). Field Splice E7/E8
B). Field Splice W7/W8

A). Field Splice E7/E8

The QAI observed the excavation of the unacceptable discontinuities on the deck plate field splice identified as WN: 7E-8E-A3, repair cycle # R2. The rejectable discontinuities was discovered during the Ultrasonic Testing (UT) performed by the QC technician, Tom Pasqualone and appeared to travel in the longitudinal direction of the weld axis. The excavations of the rejected areas was performed by welding personnel Fred Kaddu ID-2188 utilizing a high cycle grinder to remove the defects and a rotary file to bring the excavated area into compliance with the Weld Procedure Specification (WPS) ABF-WPS-D15-1001 Repair, Rev. 0. At the conclusion of the excavations the QC inspector, Tom Pasqualone, performed a visual inspection and a Magnetic Particle Test (MPT)of the excavated areas and no rejectable indications were noted. At the conclusion of the VT and MPT, the welder commenced the welding of the repairs which were identified with the following Y coordinates; Y=2115 mm, Y=4410 mm and Y=4760 mm. The welding was also performed by Mr. Kaddu utilizing the Shielded Metal Arc Welding (SMAW) process as per the WPS which was also utilized by the QC inspector to monitor the welding and to verify the DC welding parameters. The QC inspector verified the DC welding parameters as 145 amps and the minimum preheat temperature 40 degrees Celsius and the maximum interpass temperature of 230

degrees Celsius which appeared to comply with the contract documents. The welding was performed in the flat (1G) position utilizing a 3.2 mm low hydrogen electrode. The welding of these repairs was completed during this scheduled shift. The QAI also verified the dimensions of the excavations and were noted and recorded as follows; Y=2115 mm, L=150 mm, d=14 mm; Y=4410 mm, L=105 mm, d=13.5 mm and Y=4760 mm, L=90 mm, d=14 mm.

B). Field Splice W7/W8

The QAI observed the excavation of the unacceptable discontinuities on the deck plate field splice identified as WN: 7W-8W-A4, repair cycle # R1. The rejectable discontinuities was discovered during the Ultrasonic Testing (UT) performed by the QC technician, Steve McConnell and appeared to travel in the longitudinal direction of the weld axis. The excavation was performed by AB/F personnel Hua Qiang Hwang utilizing a high cycle grinder to remove the defects and a rotary file to bring the excavated area into compliance with the Weld Procedure Specification (WPS) ABF-WPS-D15-1001 Repair, Rev. 0. At the conclusion of the excavations the QC inspector, Steve McConnell, performed a visual inspection and a Magnetic Particle Test (MPT)of the excavated areas and no rejectable indications were noted. At this time the welder commenced the repair welding which were identified with the following Y coordinates; Y=1800 mm, Y=1960 mm, Y=3400 mm and Y=4300. The welding of these repairs was completed during this scheduled shift. The welding was performed by James Zhen ID-6001utilizing the Shielded Metal Arc Welding (SMAW) process as per the WPS which was also utilized by the QC inspector to monitor the welding and to verify the DC welding parameters. The QC inspector verified the DC welding parameters as 132 amps and the minimum preheat temperature 40 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius which appeared to comply with the contract documents. The welding was performed in the flat (1G) position utilizing a 3.2 mm low hydrogen electrode. The QAI also verified the dimensions of the excavations and were noted and recorded as follows, for the weld segment A4; Y=1960 mm, L=110 mm, d=14 mm; Y=3400 mm, L=180 mm, d=14 mm; Y=4300 mm, L=125 mm, d=14 mm, Y=4385 mm, L=115 mm and d=14 mm. The Y coordinates for the weld segment A5 are as follows; Y=4570 mm, L=145 mm, d=14 mm and Y=4940 mm, 170 mm and d=18 mm.. The welding was completed was not completed during this shift.

QA Observation and Verification Summary

The QA inspector observed the QC activities and the welding of the field splices utilizing the WPS as noted above, which appeared to be posted at the weld station. The welding parameters and surface temperatures were verified by the QC inspector and utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The ESAB consumables utilized for the SMAW welding process appeared to comply with the AWS Specification and AWS Classification. The QC inspection, testing and welding performed on this shift appeared to be in general compliance with the contract documents. At random intervals, the QAI verified the QC inspection, testing, welding parameters and the surface temperatures utilizing various inspection equipment and gages which included a Fluke 337 Clamp Meter and Tempilstik Temperature indicators.

The digital photographs on page 3 of this report illustrate the work observed during this scheduled shift.

WELDING INSPECTION REPORT

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Summary of Conversations:

There were general conversations with Quality Control Inspector Bonifacio Daquinag, Jr. at the start of the shift regarding the location of American Bridge/Fluor welding, inspection and N.D.E. testing personnel scheduled for this shift.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer